

Revision 0.a Release Date April 2008
Revision Notes Initial release

This document applies to part numbers 5204 and 5207

Technical Specifications Summary

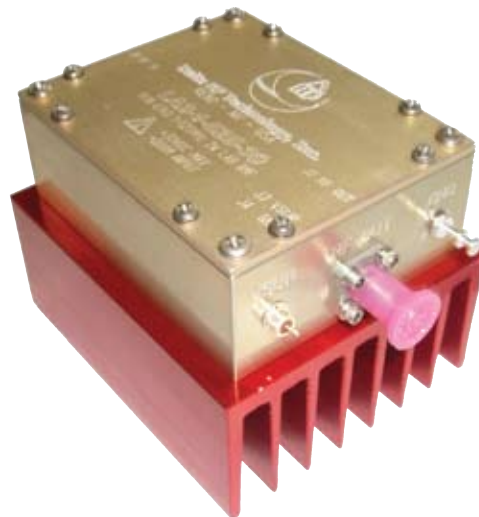
Frequency Range:	86 - 108 MHz	Gain:	52dB
P1dB:	4 Watts CW	Efficiency:	10%
Class:	A	Temperature Range:	-20 to 50°C
Supply Voltage:	28V DC	Max VSWR:	3:1

Amplifier General Description

Designed specifically for the digital FM / DAB / IBOC marketplace, this gold metallized LDMOS based high gain amplifier gives high gain and ultra linear performance. Exceptionally high linear operation is offered: -43dBc typical at 1.5W PEP.

Currently available in a module or pallet form, the amplifier must be bolted to an appropriate heat-sink for proper operation. Pallet versions must be shielded to prevent undesired operation due to the high gain of the module.

Amplifier Picture



Delta RF Technology, Inc.

High Power RF Amplifiers and Accessories

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Parameter	Min	Typ	Max	Units	Notes
Frequency	86		108	MHz	
P1dB		4		W, CW	
Linear Power Out		1.5		W, Pk	
Power Input		0.01		mW, CW	
Gain	50	52		dB	
IMD3		-43		dBc	1.5WPEP, 10kHz spacing
Vsupply		28		V, DC	
Drain Current		0.7		A, DC	
Efficiency		10		%	
Input VSWR		1.2:1	1.5:1		
Insertion Phase Variation		5		°	Unit to unit
Gain Variation		±1.5		dB	Unit to unit
F2 Second Harmonic		-25		dBc	
F3 Third Harmonic		-45		dBc	
Baseplate Operating Temperature	-20		50	°C	

Physical Dimensions

All specifications valid for 50 Ω output load, $V_{sup} = +28VDC$, $I_{dq} = 0.70A$

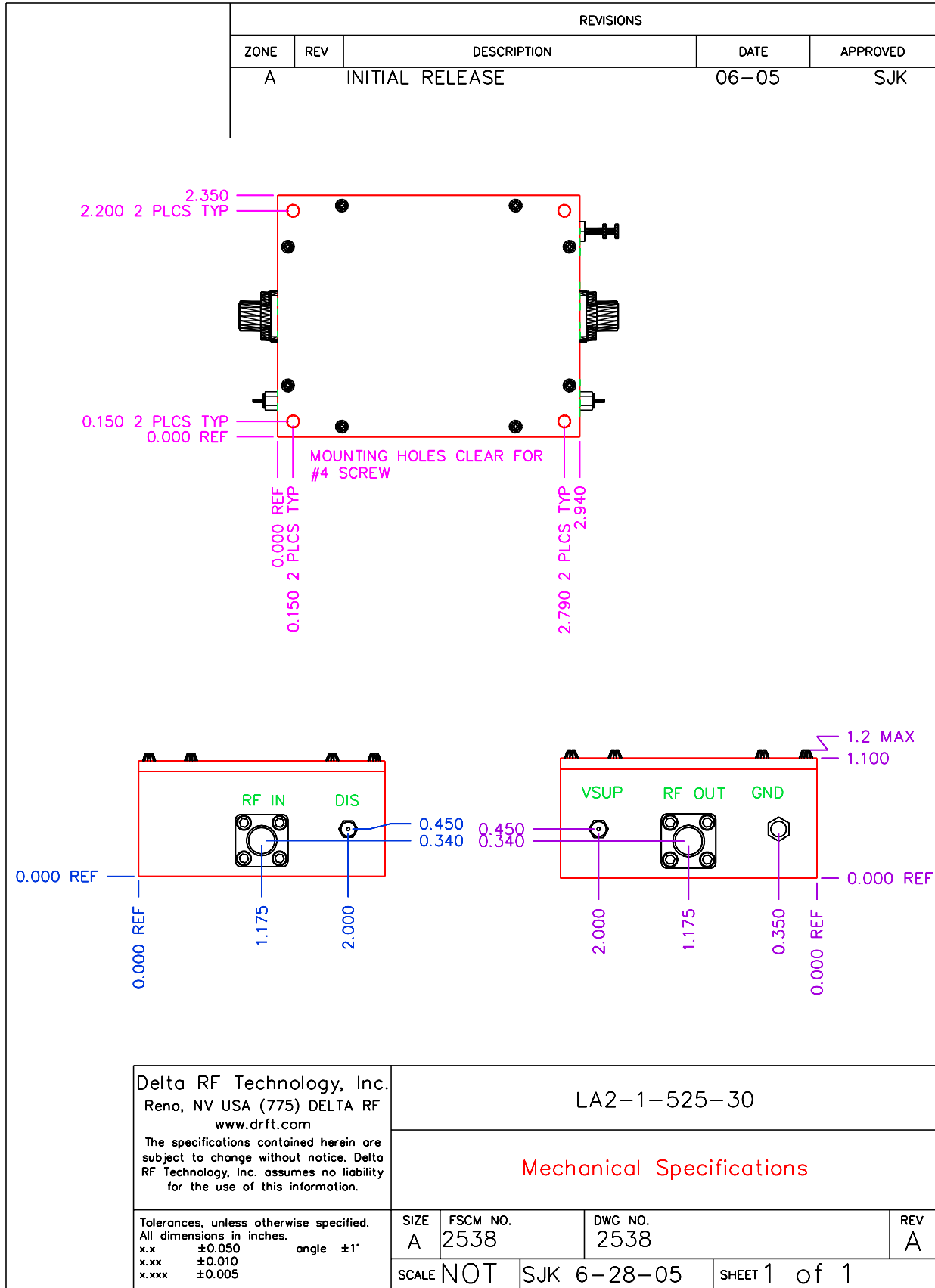
Absolute Maximum Ratings

Parameter	Value	Units	Notes
Maximum Operating Voltage	30	V, DC	
Stable Operating Voltage	26 - 30	V, DC	
Maximum Bias Current, Q100, Q101	0.065	A, DC	Factory set. No user adjustment.
Maximum Drain Current	0.70	A, DC	Factory set. No user adjustment.
Load Mismatch Survival	3:1		
Storage Temperature	-40 to 85	°C	
Maximum Operating Baseplate Temp	50	°C	

Features, Auxillary Functions

◆ Connectorized Power and I/O





<p>Delta RF Technology, Inc. Reno, NV USA (775) DELTA RF www.drft.com</p> <p>The specifications contained herein are subject to change without notice. Delta RF Technology, Inc. assumes no liability for the use of this information.</p>	<h2 style="margin: 0;">LA2-1-525-30</h2>								
<h3 style="margin: 0;">Mechanical Specifications</h3>									
<p>Tolerances, unless otherwise specified. All dimensions in inches.</p> <p>x.x ±0.050 angle ±1° x.xx ±0.010 x.xxx ±0.005</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">SIZE</td> <td style="width: 35%;">FSCM NO.</td> <td style="width: 35%;">DWG NO.</td> <td style="width: 15%;">REV</td> </tr> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">2538</td> <td style="text-align: center;">2538</td> <td style="text-align: center;">A</td> </tr> </table>	SIZE	FSCM NO.	DWG NO.	REV	A	2538	2538	A
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Ordering Information:

Order Code	Description	DRFT Reference
PAB4-86-108-50	Digital FM Radio Driver, 88 - 108 MHz	5204
PA4-88-108-50	Pallet amplifier	5207

Options

-A11	SMA Female Connectors In / Out	0201
-A12	Heat Sink Option	0202
-A13	Heat Sink Option with DC Fan, pre wired	0203
-A14	Ruggedized for vibration	0204
-A15	Wire harness, 1' length, 10 wires for pallet amplifier only (NON-FM)	0205
-A16	Wire harness, customer specified length for pallet amplifier only	0206
-T2	Extended Burn In	0271
-T3	Extended Data Collection	0272

Standard Pallet Options:

SMA Female Connectors, Input and Output. Stainless Body, Gold Center pin, 4-hole SMA bolted to pallet amplifier edge through bottom two holes located at amplifiers RF IN and RF OUT locations. All stainless steel hardware.

Enclosure- all aluminum machined enclosure available for most pallet amplifiers. Alodined aluminum, alloy 6061-T6. SMA Female input and output RF connectors. Supply voltage and ground through solder / feedthrough connections. Module must be bolted to appropriate heatsink.

Heat Sink - aluminum extruded heat sink, black anodized. Pallet amplifier or module will be bolted to heatsink. Customer will be required to provide adequate airflow.

Heat sink with fan - aluminum extruded heat sink as above, with included fan bolted to push air through the heat sink. Depending on heat requirements, a second fan may also be provided on the output of the unit.

Ruggedized - all screws have threadlocking compound applied, and all flying components are staked and attached to base. Designed to withstand MIL-STD-810E 514.4 Category 8.

Power Connector - a 10 pin molex connector is used on all standard pallet amplifiers to supply +Vsup and Ground connections, as well as hi-side current shunts for current monitoring. Delta RF offers the mating connector with 1' wires - Red (Vsup), Black (Ground), Yellow (Current monitor). All wires are 18 gauge teflon insulated wires. Customer may optionally specify wire length and wire color.

Testing Options:

Standard - includes power test and brief burn - in under laboratory conditions. Printed test report gives graph of Gain and Input Return Loss at rated P1dB and Voltage Conditions. Report shows pass/fail criteria. All amplifiers include this test.

Extended burn in - 8-hour burn in at P1dB with standard test run at completion. Unit is monitored during test and any discrepancy reported. Standard test data is included.

Extended data collection - Standard data is run and included. Detailed data is taken point by point giving the customer 25 - 70 frequency points, depending on the amplifier model. For each frequency point, data is generated to include gain, input power, input return loss, current, second harmonic, third harmonic, efficiency, audio distortion.

Other tests available - Vibration, Temp cycling, Shock. Please inquire.

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